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May 31, 2017

Ms. Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee FL 32399-0850

Re: Docket No. 170076-EI – Petition for approval of new standard offer for purchase of firm capacity and energy from renewable energy facilities or small qualifying facilities and approval of tariff schedule REF-1, by Gulf Power Company

Dear Ms. Stauffer:

Attached for electronic filing is Gulf Power Company's response to Staff's First Data Request in Docket 170076-EI.

Sincerely,

Robert L. McGee, Jr
Regulatory and Pricing Manager

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Attachments

cc: Beggs & Lane
Jeffrey A. Stone, Esq.
Florida Public Service Commission
Takira Thompson, Division of Engineering
Traci Matthews, Division of Engineering

1. Please complete the following table describing payments to a renewable provider based on the proposed tariffs included in GULF's revised standard offer contract. Please assume a renewable generator with a 50 MW output providing firm capacity with an in-service date of January 1, 2018, operating at the minimum capacity factor required for full capacity payments and a contract duration of 20 years. Please state the capacity factor assumed for the calculations. Please calculate the total Net Present Value (NPV) of all payments in 2018 dollars, and also provide an explanation of the method and rate used to calculate the NPV.

Please provide the completed table for the following five scenarios:

- As-available energy (energy only payments)
- Normal capacity payments
- Levelized payments
- Early payments
- Early levelized payments

RESPONSE:

See pages 2 through 6 for each scenario. Each scenario assumes a 50 MW renewable generator operating at 95% capacity factor and meeting the minimum Equivalent Availability Factor specified in Gulf's Schedule REF-1 needed to receive full capacity payments. For each scenario, Gulf assumes an in-service date of January 1, 2018 for the renewable generator.

Gulf uses the Excel formula to determine the NPV of each payment stream. The annual discount rate used in the NPV calculation is 6.34%.

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As- Available Energy	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
Year	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2018	416,100	0	0	27.26	11,342,191	11,342,191
2019	416,100	0	0	29.65	12,335,333	12,335,333
2020	417,240	0	0	30.87	12,882,006	12,882,006
2021	416,100	0	0	32.22	13,405,610	13,405,610
2022	416,100	0	0	33.08	13,765,438	13,765,438
2023	416,100	0	0	35.04	14,579,595	14,579,595
2024	417,240	0	0	37.28	15,554,084	15,554,084
2025	416,100	0	0	39.12	16,277,498	16,277,498
2026	416,100	0	0	40.53	16,864,756	16,864,756
2027	416,100	0	0	42.26	17,583,838	17,583,838
2028	417,240	0	0	42.92	17,906,860	17,906,860
2029	416,100	0	0	45.48	18,923,085	18,923,085
2030	416,100	0	0	45.70	19,015,059	19,015,059
2031	416,100	0	0	46.84	19,490,483	19,490,483
2032	417,240	0	0	49.12	20,493,134	20,493,134
2033	416,100	0	0	51.30	21,346,726	21,346,726
2034	416,100	0	0	53.68	22,337,426	22,337,426
2035	416,100	0	0	56.09	23,338,220	23,338,220
2036	417,240	0	0	59.11	24,664,736	24,664,736
2037	416,100	0	0	61.99	25,792,002	25,792,002
Total (Nominal)			0		357,898,080	357,898,080
Total NPV (2018 \$)			0		184,124,816	184,124,816

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Normal	Energy	Capacity Rates ⁽¹⁾	Total Capacity Payments	Energy Rates ⁽²⁾	Total Energy Payments	Total Payments
Year	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2018	416,100	0.00	0.00	27.26	11,342,886	11,342,886
2019	416,100	0.00	0.00	29.65	12,337,365	12,337,365
2020	417,240	0.00	0.00	30.87	12,880,199	12,880,199
2021	416,100	0.00	0.00	32.22	13,406,742	13,406,742
2022	416,100	0.00	0.00	33.08	13,764,588	13,764,588
2023	416,100	4.55	1,592,500	35.04	14,580,144	16,172,644
2024	417,240	4.62	2,773,316	37.28	15,554,707	18,328,023
2025	416,100	4.75	2,848,750	39.12	16,277,832	19,126,582
2026	416,100	4.88	2,926,236	40.53	16,864,533	19,790,769
2027	416,100	5.01	3,005,830	42.26	17,584,386	20,590,216
2028	417,240	5.15	3,091,088	42.83	17,870,389	20,961,477
2029	416,100	5.29	3,174,166	45.38	18,882,618	22,056,784
2030	416,100	5.44	3,261,503	45.65	18,994,965	22,256,468
2031	416,100	5.59	3,352,716	46.79	19,469,319	22,822,035
2032	417,240	5.74	3,443,910	49.07	20,473,967	23,917,877
2033	416,100	5.90	3,537,584	51.26	21,329,286	24,866,870
2034	416,100	6.06	3,633,807	53.66	22,327,926	25,961,733
2035	416,100	6.22	3,732,646	56.04	23,318,244	27,050,890
2036	417,240	6.39	3,834,174	59.05	24,638,022	28,472,196
2037	416,100	6.56	3,938,464	61.93	25,769,073	29,707,537
Total (Nominal)			48,146,692		357,667,191	405,813,883
Total NPV (2018 \$)			21,479,283		184,032,188	205,511,470

(1) Capacity rate effective as of avoided unit's June 1, 2023 in-service date.

(2) Projected as-available energy rates shown prior the avoided unit's June 1, 2023 in-service date. The lower of the projected as-available energy rate or the projected avoided unit energy rate shown as of in-service date of Gulf's avoided unit.

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Levelized	Energy	Capacity Rates ⁽¹⁾	Total Capacity Payments	Energy Rates ⁽²⁾	Total Energy Payments	Total Payments
Year	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2018	416,100	0.00	0	27.26	11,342,886	11,342,886
2019	416,100	0.00	0	29.65	12,337,365	12,337,365
2020	417,240	0.00	0	30.87	12,880,199	12,880,199
2021	416,100	0.00	0	32.22	13,406,742	13,406,742
2022	416,100	0.00	0	33.08	13,764,588	13,764,588
2023	416,100	5.07	1,775,295	35.04	14,580,144	16,355,439
2024	417,240	5.10	3,058,309	37.28	15,554,707	18,613,016
2025	416,100	5.14	3,084,338	39.12	16,277,832	19,362,170
2026	416,100	5.19	3,111,075	40.53	16,864,533	19,975,608
2027	416,100	5.23	3,138,539	42.26	17,584,386	20,722,925
2028	417,240	5.28	3,166,750	42.83	17,870,389	21,037,139
2029	416,100	5.33	3,195,729	45.38	18,882,618	22,078,347
2030	416,100	5.38	3,225,496	45.65	18,994,965	22,220,461
2031	416,100	5.43	3,256,072	46.79	19,469,319	22,725,391
2032	417,240	5.48	3,287,480	49.07	20,473,967	23,761,447
2033	416,100	5.53	3,319,742	51.26	21,329,286	24,649,028
2034	416,100	5.59	3,352,882	53.66	22,327,926	25,680,808
2035	416,100	5.64	3,386,924	56.04	23,318,244	26,705,168
2036	417,240	5.70	3,421,891	59.05	24,638,022	28,059,913
2037	416,100	5.76	3,457,809	61.93	25,769,073	29,226,882
Total (Nominal)			47,238,331		357,667,191	404,905,522
Total NPV (2018 \$)			21,479,282		184,032,188	205,511,470

(1) Capacity rate effective as of avoided unit's June 1, 2023 in-service date.

(2) Projected as-available energy rates shown prior the avoided unit's June 1, 2023 in-service date. The lower of the projected as-available energy rate or the projected avoided unit energy rate shown as of in-service date of Gulf's avoided unit.

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Early	Energy	Capacity Rates ⁽¹⁾	Total Capacity Payments	Energy Rates ⁽²⁾	Total Energy Payments	Total Payments
Year	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2018	416,100	2.59	1,555,806	27.26	11,342,886	12,898,692
2019	416,100	2.66	1,598,124	29.65	12,337,365	13,935,489
2020	417,240	2.74	1,641,593	30.87	12,880,199	14,521,792
2021	416,100	2.81	1,686,244	32.22	13,406,742	15,092,986
2022	416,100	2.89	1,732,110	33.08	13,764,588	15,496,698
2023	416,100	2.97	1,779,224	35.04	14,580,144	16,359,368
2024	417,240	3.05	1,827,619	37.28	15,554,707	17,382,326
2025	416,100	3.13	1,877,330	39.12	16,277,832	18,155,162
2026	416,100	3.21	1,928,393	40.53	16,864,533	18,792,926
2027	416,100	3.30	1,980,846	42.26	17,584,386	19,565,232
2028	417,240	3.39	2,034,725	42.83	17,870,389	19,905,114
2029	416,100	3.48	2,090,069	45.38	18,882,618	20,972,687
2030	416,100	3.58	2,146,919	45.65	18,994,965	21,141,884
2031	416,100	3.68	2,205,315	46.79	19,469,319	21,674,634
2032	417,240	3.78	2,265,300	49.07	20,473,967	22,739,267
2033	416,100	3.88	2,326,916	51.26	21,329,286	23,656,202
2034	416,100	3.98	2,390,208	53.66	22,327,926	24,718,134
2035	416,100	4.09	2,455,222	56.04	23,318,244	25,773,466
2036	417,240	4.20	2,522,004	59.05	24,638,022	27,160,026
2037	416,100	4.32	2,590,602	61.93	25,769,073	28,359,675
Total (Nominal)			40,634,567		357,667,191	398,301,758
Total NPV (2018 \$)			21,479,282		184,032,188	205,511,470

(1) Capacity rate effective as of January 1, 2018.

(2) Projected as-available energy rates shown prior the avoided unit's June 1, 2023 in-service date. The lower of the projected as-available energy rate or the projected avoided unit energy rate shown as of in-service date of Gulf's avoided unit.

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Early Levelized	Energy	Capacity Rates ⁽¹⁾	Total Capacity Payments	Energy Rates ⁽²⁾	Total Energy Payments	Total Payments
Year	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2018	416,100	3.00	1,797,524	27.26	11,342,886	13,140,410
2019	416,100	3.02	1,812,112	29.65	12,337,365	14,149,477
2020	417,240	3.05	1,827,096	30.87	12,880,199	14,707,295
2021	416,100	3.07	1,842,488	32.22	13,406,742	15,249,230
2022	416,100	3.10	1,858,298	33.08	13,764,588	15,622,886
2023	416,100	3.12	1,874,539	35.04	14,580,144	16,454,683
2024	417,240	3.15	1,891,221	37.28	15,554,707	17,445,928
2025	416,100	3.18	1,908,357	39.12	16,277,832	18,186,189
2026	416,100	3.21	1,925,959	40.53	16,864,533	18,790,492
2027	416,100	3.24	1,944,040	42.26	17,584,386	19,528,426
2028	417,240	3.27	1,962,612	42.83	17,870,389	19,833,001
2029	416,100	3.30	1,981,690	45.38	18,882,618	20,864,308
2030	416,100	3.34	2,001,287	45.65	18,994,965	20,996,252
2031	416,100	3.37	2,021,417	46.79	19,469,319	21,490,736
2032	417,240	3.40	2,042,094	49.07	20,473,967	22,516,061
2033	416,100	3.44	2,063,334	51.26	21,329,286	23,392,620
2034	416,100	3.48	2,085,151	53.66	22,327,926	24,413,077
2035	416,100	3.51	2,107,562	56.04	23,318,244	25,425,806
2036	417,240	3.55	2,130,583	59.05	24,638,022	26,768,605
2037	416,100	3.59	2,154,229	61.93	25,769,073	27,923,302
Total (Nominal)			39,231,593		357,667,191	396,898,784
Total NPV (2018 \$)			21,479,282		184,032,188	205,511,469

(1) Capacity rate effective as of January 1, 2018.

(2) Projected as-available energy rates shown prior the avoided unit's June 1, 2023 in-service date. The lower of the projected as-available energy rate or the projected avoided unit energy rate shown as of in-service date of Gulf's avoided unit.